Journal of Business Venturing Insights 19 (2023) e00364

Contents lists available at ScienceDirect

Journal of Business Venturing Insights

journal homepage: www.elsevier.com/locate/jbvi

Why narcissists may be successful entrepreneurs: The role of entrepreneurial social identity and overwork

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ARTICLE INFO

Keywords:
Narcissism
Company performance
Darwinian social identity
Overwork

ABSTRACT

In this article, we theoretically and empirically examine why and how social identity and overwork/workaholism represent pathways to convey the effect of dark triad traits – Machiavellianism, narcissism, and psychopathy – on venture performance. By analyzing the data of 569 university students with their own businesses in the Global University Entrepreneurial Spirit Students' Survey, we show that compulsive overwork and Darwinian social identity partially mediate the positive effect of narcissism on venture performance. Thus, our study extends the narcissism literature by exploring the mechanism of the positive impact of narcissism on venture performance and implies that narcissism is not necessarily an adverse personality characteristic in an entrepreneurial context.

1. Introduction

Factors that make an entrepreneur successful – when only a small fraction of new ventures expands dynamically and the majority of them fail within a few years – have been the subject of debates in the entrepreneurship literature (e.g., Khelil, 2016; Lee et al., 2021; Nanda, 2016). Advancing the literature on the role of personality traits in entrepreneurial success, we study the mechanisms underlying the influence of the aversive Dark Triad (DT) traits – Machiavellianism, sub-clinical psychopathy, and sub-clinical narcissism – on entrepreneurial success. More precisely, we theoretically and empirically examine why and how social identity and overwork/workaholism represent pathways to convey the effect of DT traits on entrepreneurial success in the case of young and small ventures of student entrepreneurs.

Brownell et al. (2021), examining entrepreneurship through the lens of Nietzsche's will to power, argued that acquiring domination over others is a meaningful predecessor of entrepreneurial phenomena, and the desire to dominate is rooted in the personality traits of DT. However, empirical results are ambiguous, and little is known about the mechanism behind the effect of DT traits on entrepreneurial success. Therefore, researchers have called for further examination of the channels via which DT traits exercise their effects on entrepreneurial success and how DT traits relate to other personality characteristics in shaping entrepreneurial success (Brownell et al., 2021; Liu et al., 2021; Wu et al., 2022).

The primary contribution of this study to the entrepreneurship literature is the investigation of the mediators of the link between narcissism and entrepreneurial success. We have found that, among the DT traits, narcissism has an economically meaningful effect on entrepreneurial success, and its effects are partially realized through the pathways of Darwinian social identity and compulsive overwork.

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https://doi.org/10.1016/j.jbvi.2022.e00364
Received 16 September 2022; Received in revised form 29 November 2022; Accepted 2 December 2022
Available online 13 December 2022

2. Theoretical framework and hypotheses

In the case of small and young firms, the personality traits and values of the founders/managers can emerge unhindered and be reflected in the company's characteristics (e.g., Wu et al., 2022). Among the entrepreneurial characteristics, the DT traits of Machiavellianism, psychopathology, and narcissism have recently attracted the attention of researchers exploring variations in entrepreneurial success. Machiavellianism is characterized by social manipulation, exploitation of others, and self-interest. Narcissism is portrayed by grandiosity, egoism, selfishness, and the need for affirmation. Psychopathy is hallmarked by insensitivity, impulsivity, irresponsibility, grandiosity, lack of remorse and empathy (Paulhus and Williams, 2002). The three DT traits share a common foundation by mainly overlapping via their close link to the honesty/humility factor of the HEXACO personality model (Book et al., 2015) and manifest in a callous and manipulative interpersonal behavior and self-advancement (Furnham et al., 2013; Zuroff et al., 2010). Several studies have found a positive relationship between DT traits, entrepreneurial intention, and opportunity recognition (Brownell et al., 2021; Hoang et al., 2022; Leung et al., 2020). It has been proposed that the perceived attractiveness of power, control, wealth, and admiration fuels the desire of individuals high in DT traits for domination thorough entrepreneurial behavior (Brownell et al., 2021).

However, the three DT traits show considerable differences in the characteristics relevant to achieving entrepreneurial success. In their meta-analysis, Brownell et al. (2021) found that individuals high in sub-clinical narcissism are more successful entrepreneurs than their peers. On the other hand, Machiavellianism and sub-clinical psychopathy are negatively linked to entrepreneurial success. In some cases, Machiavellianism has been shown to be related to career and business success (e.g., Aziz, 2005; Furnham et al., 2013). However, Machiavellian characteristics also destroy cooperation and trust between partners and employees (Brownell et al., 2021). Psychopaths' aggressive and impulsive behavior, together with self-centered decision-making, arguably results in the lack of long-term strategy and direction on the firm level and poor relationships with peers and employees (Hogan and Kaiser, 2005).

In contrast to Machiavellianism and sub-clinical psychopathy, the positive influence of the bright side of narcissism may surpass its adverse effects in the context of entrepreneurial processes (Brownell et al., 2021; Leung et al., 2021). Narcissism is coupled with charismatic behavior benefitting social relationships, creating friendships, and supporting employees (Campbell and Campbell, 2009; Jonason and Schmitt, 2012). To accomplish their goals, reach affirmation and power, entrepreneurs high in narcissism are ambitious, highly motivated, resilient, and high in entrepreneurial orientation (Altinay et al., 2012; Paulhus and Williams, 2002; Raskin and Terry, 1988; Wales et al., 2013). Stöckmann et al. (2015) found that narcissism increases business planning performance by enhancing the team's entrepreneurial self-efficacy and the team's entrepreneurial orientation. Hirschi and Jaensch (2015) showed that the positive effect of narcissism on career success is mediated by higher occupational self-efficacy and career engagement. However, results on the link between narcissism and entrepreneurial success are ambiguous, with some research demonstrating the dark side of narcissism in its relation to some aspects of entrepreneurial performance (e.g., Bollaert et al., 2020; Creek et al., 2019). Additionally, research is still scarce on the overall venture success and the mechanism behind the bright side of narcissism.

2.1. Dark triad traits and entrepreneurs' social identity

It is reasonable to think that the self-centered, self-advancing aspects of the DT traits and the will to power behind these traits influence how entrepreneurs high in DT traits relate to other members of the society, i.e., their social entrepreneurial identity. Based on the social identity theory of Tajfel and Turner (2004), the social identity of entrepreneurs is defined as how they interpret their experiences and behavioral options based on their group memberships (Fauchart and Gruber, 2011). Social group members assess behavioral options based on the fit between the actions and their group's idealized action archetype (Tajfel and Turner, 2004). Drawing on social identity theory, Fauchart and Gruber (2011) delineated three distinct entrepreneurial identities; Darwinian, Communitarian, and Missionary.

Communitarian founders see their activities as founders as an essential catalyst for the development of the community. They feel that they contribute to the community with their innovative products and value the support they receive from community members. Missionary founders consider their firm a powerful agent of change in society. They pursue their political visions and advance particular causes (social or environmental nature) to establish a better world (Fauchart and Gruber, 2011). Darwinian founders are associated with traditional business-oriented meanings. Darwinian social identity has been shown to increase venture performance (Chen et al., 2021; de la Cruz et al., 2018) and entrepreneurial self-efficacy (Brändle et al., 2018). Also, Darwinians financially tend to outperform Communitarians and Missionaries (Brändle et al., 2019; Chen et al., 2021; Fauchart et al., 2019; Decker, 2017) as they have a solid and primary motive of making profits and accumulating personal wealth.

How the social identity of entrepreneurs and the DT traits relate to each other has not yet been examined. However, as Darwinians' basic social motivation is defined by economic self-interest and enhanced by the need to be successful among the competing firms, it seems likely that the DT traits are coupled with Darwinian social identity. Additionally, we suppose that Darwinian entrepreneurial identity is more likely to be coupled with high narcissism than with high Machiavellianism and psychopathology, as narcissists are more ambitious, resilient, and motivated than their peers are.

Taken together, we postulate that because of the self-advancing aspect and highly motivated nature of narcissistic individuals, entrepreneurs high in narcissism would elaborate a Darwinian social identity. This is because Darwinian social identity is the most strongly linked to self-benefitting and the most probable to lead to financial success and power among the social identities. Thus, we postulate that the entrepreneurial success of narcissist individuals would be partially achieved through the pathway of the Darwinian social identity of entrepreneurs.

H1. Darwinian social identity partially mediates the effect of narcissism on entrepreneurial success.

2.2. Dark triad traits and overwork

Overwork is often captured in the literature through workaholism, the excessive working that interferes with health, happiness, and with social functioning (Schaufeli et al., 2009). The positive dimension of workaholism, achievement, and success orientation is linked to higher performance (Scott et al., 1997). A few studies have established a positive relationship between narcissism, workaholism, and work engagement leading to career success (e.g., Andreassen et al., 2012; Hirschi and Jaensch, 2015). However, Falco et al. (2020) found, for instance, that narcissism was positively associated with workaholism in individuals with a high workload. The connection between narcissism and workaholism was explained by the fact that narcissists attach great importance to success in the workplace, where they can satisfy their need for power and admiration by demonstrating their abilities and superiority over others (Clark et al., 2010).

Therefore, we argue that as small and young firms face challenges to survive, the willingness to overwork plays a significant role in entrepreneurial success. Liability of newness refers to the precariousness of emerging firms in acquiring resources, establishing routines, building relationships with competitors and partners (Stinchcombe, 1965; Yang and Aldrich, 2017), and managing technological uncertainty (Giardino et al., 2015). These tasks put an exceptionally high workload on founder entrepreneurs (Adisa et al., 2019; Cubbon et al., 2021; MacEachen et al., 2008). As narcissistic individuals are resilient and highly motivated to reach their goals, we argue that they are more likely to overwork than their peers. Thus, overwork mediates the effect of narcissism on venture performance.

H2. : In the case of small and young firms, workaholism/overwork partially mediates the effect of narcissism on entrepreneurial success.

3. Material and methods

3.1. Participants

To test the hypotheses, we used the GUESSS (Global University Entrepreneurial Spirit Students' Survey) database, one of the most considerable entrepreneurship research endeavors in the world. The survey, involving around 50 countries, measures student entrepreneurial intentions and activity and the main influencing factors of students' decisions. The sample we analyzed includes 10,104 Hungarian students' responses, of whom 659 respondents from 20 universities reported having their own business. Our trend research based on self-reporting by respondents reached around 3.6% of the whole Hungarian student population in 2021.

The composition of the respondents by field of study is as follows: business, management, and economics 20.9%, engineering 17.0%; social sciences 10.8, human medicine, health sciences 9.7%, arts/humanities 9.3%, law 7.3%, computer sciences/IT 6.5%; natural sciences 5.6%, science of art 1.4%, mathematics 0.5%, other 11.1%. Of the respondents, 51% study in bachelor-level programs, 24.9% in master's programs, 5.2% at doctoral level and 18.8% at other (e.g., MBA). As regards gender distribution, the female-male ratio is 51.3%–48.7%. The distribution by gender is close to the distribution of the total population, which is 53% female and 47% male. 15% of the companies were established in the year of data collection, in 2021, and the proportion of companies no older than three years is 49%. Regarding company size, the vast majority of firms have no employees or one employee (80.4%), while the share of micro-enterprises is 97.6%. 41.3% of the student entrepreneurs surveyed reported a family entrepreneurial background, i.e., one or both parents are entrepreneurs or the majority owners of a company.

3.2. Variables and analyses

The variables we use have been validated in previous research. All variables were measured using Likert scale items from 1 (strongly disagree) to 7 (strongly agree), and their arithmetic means were calculated and used in the statistical models. The variables of the dark triad, narcissism ($\alpha = 0.848$), Machiavellianism ($\alpha = 0.864$), and psychopathy ($\alpha = 0.796$), are based on the work of Jonason and Webster (2010). Founder social identities, Darwinian ($\alpha = 0.818$), Communitarian ($\alpha = 0.855$), and Missionaries ($\alpha = 0.878$) are measured on a scale developed by Sieger et al. (2016). Subjective venture performance was measured based on the work of Dess and Robinson (1984) and Eddleston et al. (2008). Subjective performance evaluation relative to competitors is commonly used in the literature (Wu et al., 2022; Brändle et al., 2019; de la Cruz et al., 2018; Wiklund and Shepherd, 2005) and shows a strong correlation with objective performance variables (Vij and Bedi, 2016; Wall et al., 2004). Overwork was measured with the help of Schaufeli and colleagues' contribution, it was defined as working excessively ($\alpha = 0.852$) or working compulsively ($\alpha = 0.822$) (Schaufeli et al., 2009). Annex A contains the scale items.

To justify the variables used, χ^2, root mean square error of approximation (RMSEA), comparative fit index (CFI), Tucker-Lewis index (TLI), standardized root mean squared residual (SRMR), and coefficients of determination (CD) values were examined for the scales (Fornell and Larcker, 1981; Geldhof et al., 2014; Hu and Bentler, 1999; Pituch and Stevens, 2015). In the case of DT traits, the three-factor model (χ^2 (46) = 246.264, p = 0.000, RMSEA = 0.081, CFI = 0.952, TLI = 0.932, SRMR = 0.062) had a significantly better model fit than the single-factor model (χ^2 (54) = 1314.601, p = 0.000, RMSEA = 0.188, CFI = 0.699, TLI = 0.633, SRMR = 0.1140). As for founder social identity, we have found an acceptable fit to the factor design (χ^2 (124) = 629.779, p = 0.000, RMSEA = 0.079, CFI = 0.924, TLI = 0.906, SRMR = 0.0561); which is significantly better than in case of the single-factor model (χ^2 (135) = 2432.238, p = 0.000, RMSEA = 0.161, CFI = 0.655, TLI = 0.609, SRMR = 0.1735). Concerning overwork, a two-factor model (χ^2 (135) = 2432.238, p = 0.000, RMSEA = 0.074, CFI = 0.962, TLI = 0.947, SRMR = 0.0439) fit the data better than a single-factor model (χ^2 (35) = 780.608, p = 0.000, RMSEA = 0.180, CFI = 0.753, TLI = 0.609, SRMR = 0.0928).

As for the control variables, works on venture performance typically include both individual-level factors, such as gender (Hoang et al., 2022), age (Brändle et al., 2019), family background (Hoang et al., 2022; Wu et al., 2022), and past experience (Wu et al., 2022) and firm-level factors, such as firm size and age (Wu et al., 2022; Brändle et al., 2019; Eddleston et al., 2008; Wales et al., 2013; Wiklund and Shepherd, 2005), scope of activity (Wiklund and Shepherd, 2005), R&D activity (Wu et al., 2022), and size of the

Table 1
Means, standard deviations, correlations, and discriminant validity test results.

	Mean	SD	Performance	Machiavellianism	Psychopathy	Narcissism	Darwinian social identity	Communitarian social identity	Missionaries social identity	Work excessively	Work compulsively
Performance	3.96	1.362	1								
Machiavellianism	2.69	1.549	0.133**	1							
Psychopathy	2.34	1.316	0.078*	0.661**	1						
Narcissism	3.38	1.539	0.265**	0.492**	0.408**	1					
Darwinian social identity	5.22	1.169	0.447**	0.131**	0.022	0.235**	1				
Communitarian social identity	5.13	1.326	0.395**	−0.050	−0.157**	0.094*	0.555**	1			
Missionaries social identity	4.67	1.518	0.377**	−0.076	−0.186**	0.091*	0.466**	0.772**	1		
Work excessively	5.07	1.432	0.226**	0.084*	0.067	0.174**	0.325**	0.287**	0.279**	1	
Work compulsively	4.33	1.445	0.261**	0.109**	0.071	0.221**	0.193**	0.237**	0.237**	0.586**	1

N = 659 ** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).

founding team (Wu et al., 2022). As a large number of covariates were used by previous studies but studies worked with different sets of covariates and our student database shows a relatively low variance in some measures (e.g., education level), first we tested whether the chosen covariates have a significant effect on venture performance. The database allowed us to test for gender, age, family entrepreneurial background, previous entrepreneurial experience, company age, size, and industry. Gender (51.3% female and 48.7% male) and the number of employees (expressed as a dichotomous variable: having employees (49.2%) or not (50.8%)) influenced the outcome and were used in all models presented in the study. The descriptive statistics of the variables and their correlations are presented in Table 1. OLS regressions and Hayes PROCESS Macro Model 4 were run to test our hypotheses.

4. Results

Among the DT traits, narcissism and Machiavellianism (narcissism: $B = 0.223$, $p < 0.001$, adjusted $R^2 = 0.108$; Machiavellianism: $B = 0.08$, $p < 0.05$, adjusted $R^2 = 0.052$) have an economically meaningful effect on performance (Table 2). Narcissism also has an economically meaningful link with Darwinian social identity ($B = 0.173$, $p < 0.001$, adjusted $R^2 = 0.067$) and associates with working compulsively ($B = 0.209$, $p < 0.001$, adjusted $R^2 = 0.062$) (Tables 3 and 4). However, Darwinian social identity is mostly connected to working extensively ($B = 0394$, $p < 0.001$, adjusted $R^2 = 0.108$) (Table 4).

As working compulsively ($B = 0.495$, $p < 0.001$, adjusted $R^2 = 0.222$) and Darwinian social identity ($B = 0.231$, $p < 0.001$, adjusted $R^2 = 0.104$) are also linked to venture performance (Table 5), we test if these constructs mediate the effects of narcissism on performance.

Our results suggest a multiple mediation model; therefore, Hayes Process Macro Model 4 was used. In this model, the total effect of X (narcissism) on Y (performance) is divided into direct and indirect components, making it possible to evaluate the role of mediator variables (Darwinian social identity and working compulsively). Two covariates are included in the final model: gender and number of employees, both as dichotomous variables. Table 6 summarizes the standard errors of the model coefficients, and Table 7 provides the information needed to evaluate our hypotheses.

Both Darwinian social identity and working compulsively partially mediated the relationship between narcissism and performance. The result shows a significant indirect effect of narcissism on performance through Darwinian social identity ($b = 0.074$, $t = 5.125$). Thus, H1 is approved. Supporting H2, the indirect effect of narcissism on performance through working compulsively was found to be significant ($b = 0.029$, $t = 3.356$). The direct effect of narcissism on performance in the presence of mediator variables was also significant ($b = 0.120$, $p = 0.000$).

We have yet to formulate any particular hypotheses on the relationship between Machiavellianism, social identity, and overwork. However, as Machiavellianism influences venture performance, we tested for any relationship between these constructs. We found very small, economically significant effects. (Table 8).

Table 2
OLS regression analysis on venture performance, model.

OLS elements	Performance					
	Beta	Sig.	Beta	Sig.	Beta	Sig.
Machiavellianism	0.080	0.02				
Psychopathy			0.843	0.400		
Narcissism					0.223	0.000
Gender	0.290	0.000	0.322	0.003	0.281	0.005
Employees	0.461	0.006	0.481	0.000	0.475	0.005
Adjusted R Square	0.052		0.045		0.108	
Durbin-Watson	2.019		2.032		2.010	
F	13.038		11.386		27.421	
Sig.	0.000		0.000		0.000	

Table 3
OLS regression analysis on founder social identity.

OLS elements	Darwinian social identity		Missionaries social identity		Communitarian social identity	
	Beta	Sig.	Beta	Sig.	Beta	Sig.
Narcissism	0.173	0.000	0.097	0.011	0.086	0.010
Gender	0.115	0.192	−0.310	0.008	−0.233	0.023
Employees	0.273	0.002	0.349	0.003	0.346	0.001
Adjusted R Square	0.067		0.027		0.029	
Durbin-Watson	1.940		2.070		2.149	
F	16.728		7.166		7.557	
Sig.	0.000		0.000		0.000	

Table 4
OLS regression analysis on workaholism.

OLS elements	Work excessively		Work compulsively		Work excessively		Work compulsively	
	Beta	Sig.	Beta	Sig.	Beta	Sig.	Beta	Sig.
Narcissism	0.165	0.000	0.209	0.000				
Darwinian social identity					0.394	0.000	0.226	0.000
Gender	−0.151	0.169	−0.134	0.223	−0.169	0.111	−0.110	0.318
Employees	0.269	0.014	0.362	0.001	0.167	0.117	0.310	0.005
Adjusted R Square	0.037		0.062		0.108		0.046	
Durbin-Watson	2.020		2.063		2.016		2.074	
F	9.500		15.558		27.630		11.540	
Sig.	0.000		0.000		0.000		0.000	

Table 5
Model 2 OLS regression analysis on venture performance.

OLS elements	Performance			
	Beta	Sig.	Beta	Sig.
Darwinian social identity	0.495	0.000		
Work compulsively			0.231	0.000
Gender	0.264	0.005	0.363	0.000
Employees	0.347	0.000	0.401	0.000
Adjusted R Square	0.222		0.104	
Durbin-Watson	2.054		2.021	
F	63.544		26.352	
Sig.	0.000		0.000	

Table 6
Regression coefficients, standard errors, and model summary information.

	Consequent										
	Darwinian social identity				Work compulsively				Performance		
Antecedent		Coeff.	SE	p		Coeff.	SE	p		Coeff.	SE	p
Narcissism	a1	0.173	0.029	0.000	a2	0.209	0.036	0.000	c	0.120	0.031	0.000
Darwinian social identity		–	–	–		–	–	–	b1	0.423	0.041	0.000
Work compulsively		–	–	–		–	–	–	b2	0.139	0.033	0.000
Constant		4.449	0.119	0.000		3.508	0.147	0.000		0.447	0.236	0.058
Gender		0.116	0.088	0.192		−0.134	0.110	0.223		0.250	0.092	0.006
Employees		0.273	0.088	0.002		0.362	0.091	0.001		0.308	0.092	0.000
		$R^2 = 0.0712$				$R^2 = 0.0665$				$R^2 = 0.2708$		
		F (3, 655) = 16.728, p = 0.000				F (3, 655) = 25.558, p = 0.000				F (5, 653) = 48.490, p = 0.000		

Table 7
Evaluation of the relationships.

Total effect (Narcissism - > Performance)	Direct effect (Narcissism - > Performance)	Relationship	Indirect effect	Confidence interval		t statistics
				Lower	Upper	
0,232 (0.000)	0.120 (0.000)	Narcissism - > Darwinian social identity - > Performance (H1)	0.074	0.073	0.136	5.125
		Narcissism - > Work compulsively- > Performance (H2)	0.029	0.013	0.048	3.356

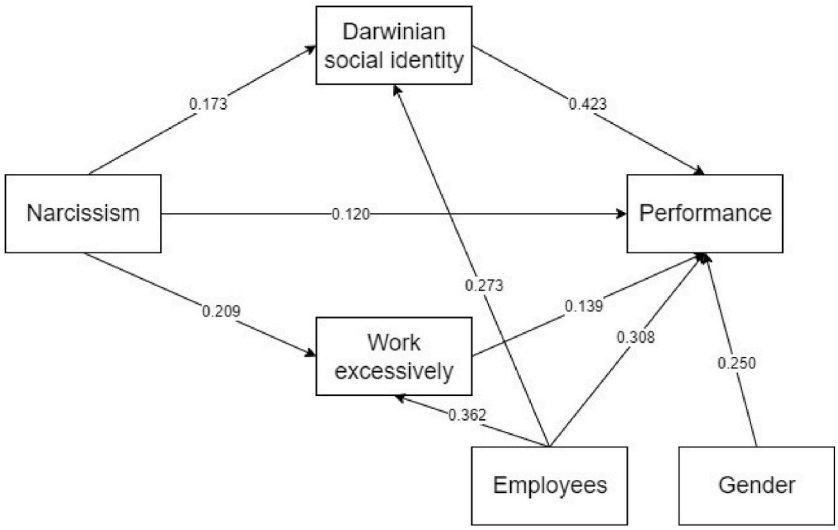

Fig. 1. The mediating effect of Darwinian social identity and working compulsively on the relationship between narcissism and venture performance.

Table 8
OLS regression analysis on Darwinian social identity and workaholism.

OLS elements	Darwinian social identity		Work compulsively		Work excessively	
	Beta	Sig.	Beta	Sig.	Beta	Sig.
Machiavellianism	0.082	0.007	0.100	0.007	0.081	0.029
Gender	0.109	0.237	−0.142	0.213	−0.159	0.162
Employees	0.256	0.005	0.341	0.002	0.252	0.024
Adjusted R Square	0.026		0.024		0.013	
Durbin-Watson	1.941		2.078		2.043	
F	6.942		6.337		3.966	
Sig.	0.000		0.000		0.000	

5. Discussion

The results are in line with some recent studies showing that narcissism has a positive effect on some aspects of entrepreneurial behavior and its outcomes, such as entrepreneurial intention and opportunity recognition (Brownell et al., 2021; Hoang et al., 2022; Leung et al., 2021), business planning performance (Stöckmann et al., 2015) and social relationships building (Campbell and Campbell, 2009; Jonason and Schmitt, 2012). We have also confirmed the link between Darwinian social identity and venture performance that has already been demonstrated in the literature (Chen et al., 2021; de la Cruz et al., 2018; Fauchart et al., 2019).

Our analyses link the two areas and thereby help to understand the mechanism between narcissism and venture performance, confirming the mediating role of Darwinian social identity in the relationship. Narcissistic personalities appear to be more likely to have Darwinian entrepreneurial motivations, i.e., they are primarily driven by running a successful business and making a profit, which in turn contributes to increased entrepreneurial performance.

The results also confirmed that overwork has a positive effect on venture performance, a relationship that is well established in the literature (e.g., Andreassen et al., 2012; Hirschi and Jaensch, 2015). Additionally, we found that narcissism indirectly influences venture performance through working compulsively. Our findings suggest that individuals high in narcissism are more likely to be willing to engage in compulsive overwork and that this drive will eventually be reflected in higher venture performance.

The study has several limitations. First, the cross-sectional nature of the data limits causal inferencing. Second, the Hungarian sample limits the generalizability of results. Different entrepreneurial ecosystems and cultures may alter the effect of narcissism on venture performance and the pathways through which narcissism exercises its effect. Future research could validate the findings of this study in different entrepreneurial environments. Also, we have concentrated on young and small firms of student entrepreneurs. Future research should investigate how organizational characteristics and entrepreneurial experience influence the role of narcissism in venture success. Third, we assessed venture performance on a subjective scale. Future research could validate our results by using objective measures. Fourth, as we only studied the mediating role of overwork and entrepreneurial social identity, future studies could also examine the mediating role of other constructs, such as, for example, the different facets of entrepreneurial passion. Based on our results, future research could theoretically and empirically examine how and why working compulsively and extensively are linked differently to narcissism and Darwinian social identities and how these relationships fluctuate at later stages of the development of ventures.

6. Conclusions

The study extends the narcissism literature by exploring the mechanism of the positive impact of narcissism on venture performance, a field that has remained under-researched so far (e.g., Wu et al., 2022). We also contribute to the relatively new and underexplored research streams on the effect of overwork and Darwinian social identity on venture performance.

Results imply that narcissism is not necessarily an adverse personality characteristic in an entrepreneurial context. Founding teams and financial supporters should acknowledge that entrepreneurs high in narcissism are willing to work to achieve their goals and those goals are likely to be centered around the performance of the venture. In the same vein, researchers should look for other mechanisms via which narcissism positively influences venture performance.

Author statement

The authors contributed equally to the preparation of this article (see Fig. 1).

Appendix 1

Constructs	Reference	Scale
Founder social identity/Darwinian Social Identity (DSI)	Sieger et al. (2016)	1-7 Likert scale
to make money and become rich.		
to advance my career in the business world.		
to operate my firm on the basis of solid management practices.		
to have thoroughly analyzed the financial prospects of my business.		
to have a strong focus on what my firm can achieve vis-à-vis the competition.		
to establish a strong competitive advantage and significantly outperform other firms in my domain.		
Founder social identity/Communitarian Social Identity (CSI)	Sieger et al. (2016)	1-7 Likert scale
to solve a specific problem for a group of people that I strongly identify with (e.g., friends, colleagues, club, community).		
to play a proactive role in shaping the activities of a group of people that I strongly identify with (e.g., friends, colleagues, club, community).		
to provide a product/service that is useful to a group of people that I strongly identify with (e.g., friends, colleagues, club, community).		
to be able to express to my customers that I fundamentally share their views, interests and values.		
to have a strong focus on the group of people that I strongly identify with (e.g., friends, colleagues, club, community).		
to support and advance the group of people that I strongly identify with (e.g., friends, colleagues, club, community).		
Founder social identity/Missionaries Social Identity (MSI)	Sieger et al. (2016)	1-7 Likert scale
to solve a societal problem that private businesses usually fail to address (such as social injustice, environmental protection).		
to play a proactive role in changing how the world operates.		
to be a highly responsible citizen of our world.		
to make the world a "better place" (e.g., by pursuing social justice, protecting the environment).		
to have a strong focus on what the firm is able to achieve for society-at-large.		
to convince others that private firms are indeed able to address the type of societal challenges that my firm addresses (e.g., social justice, environmental protection).		
Dark triad/Macchiavellism (MAC)	Jonason & Webster (2010)	1-7 Likert scale
I tend to manipulate others to get my way.		
I have used deceit or lied to get my way.		
I have used flattery to get my way.		
I tend to exploit others towards my own end.		
Dark triad/Psychopathy (PSY)	Jonason & Webster (2010)	1-7 Likert scale
I tend to lack remorse.		
I tend to be unconcerned with the morality of my actions.		
I tend to be callous or insensitive.		
I tend to be cynical.		
Dark triad/Narcissism (NAR)	Jonason & Webster (2010)	1-7 Likert scale
I tend to want others to admire me.		
I tend to want others to pay attention to me.		
I tend to seek prestige or status.		
I tend to expect special favors from others.		
Workaholism/work excessively (WorkEX)	Schaufeli et al. (2009)	1-7 Likert scale
I seem to be in a hurry and racing against the clock.		
I find myself continuing work after my co-workers have called it quits.		
I stay busy and keep my irons in the fire.		
I spend more time working than socializing with friends, on hobbies, or on leisure activities.		
I find myself doing two or three things at one time such as eating lunch and writing a memo, while talking on the phone.		
Workaholism/work compulsively (WorkCOM)	Schaufeli et al. (2009)	1-7 Likert scale
It's important for me to work hard even when I don't enjoy what I'm doing.		
I often feel that there's something inside me that drives me to work hard.		

(*continued on next page*)

(*continued*)

Constructs	Reference	Scale
I feel obliged to work hard, even when it's not enjoyable.		
I feel guilty when I take time off work.		
It is hard for me to relax when I'm not working.		
Performance (PER)	Dess and Robinson, 1984,	1-7 Likert
Sales growth	Eddleston et al., (2008)	scale
Market share growth		
Profit growth		
Job creation		
Innovativeness		

Declaration of competing interest

The authors have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgement

Project no. TKP2021-NKTA-19 has been implemented with the support provided from the National Research, Development and Innovation Fund of Hungary, financed under the TKP2021-NKTA funding scheme.

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